

# ***Procedural Coding for Skin Grafts***

**Audio Seminar**  
***January 26, 2006***

***Practical Tools for Seminar Learning***

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## Faculty

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Ms. Hull is a practice resource manager with AHIMA, where she provides professional expertise to AHIMA members, the media, and outside organizations on coding practice issues, and develops written products aimed at furthering the art and science of coding. Ms. Hull has over 20 years experience in the health information management (HIM) field, having conducted coding reviews, chargemaster maintenance and development, and presented seminars in outpatient, inpatient, and physician documentation and coding. Prior to this, she served in numerous HIM roles, including consultant and department director

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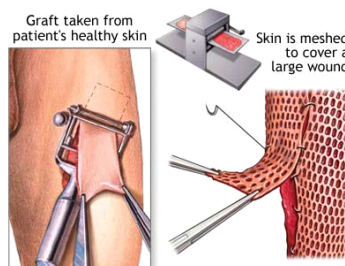
## ***Reasons to perform skin grafts***

- ♦ **Congenital defects**
- ♦ **Trauma**
  - Burns: 2<sup>nd</sup> degree to cover and permit healing;  
3<sup>rd</sup> degree to replace full thickness necrotic skin
  - Lacerations, abrasions, full thickness skin losses
- ♦ **Infection**
  - Osteomyelitis
  - Postoperative wound infections
  - Pressure ulcerations
- ♦ **Cancer**
  - Wide local excision surgery: melanoma, breast, squamous cell, head and neck

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## ***Kinds of grafts***

- ♦ **Partial thickness – epidermis/dermis**
  - Split thickness skin (patient's own, cadaver, other animal)
  - Artificial "dressing"
- ♦ **Full thickness – all skin levels down to fat**
  - Patient's own, cadaver, other animal
- ♦ **Compound graft**
  - Skin, muscle
  - Skin, muscle, bone
  - Digit
  - Bone/cartilage



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## *Objectives*



- ♦ To review code description and guidelines changes to CPT for 2006 in coding of skin grafts
- ♦ To discuss different types of skin replacements
- ♦ To review case studies illustrating each type of skin substitute
- ♦ To review different types of skin rearrangement (flap) procedures

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## *Reasons to revise codes*

- ♦ Development of new materials for treatment of burns and other skin wounds
- ♦ Differences between materials
- ♦ Harmonization with ASTM standard definitions



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## ***Functions of skin substitute***

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- ♦ **Control of bacterial balance**
- ♦ **Adequate nutrition and hydration**
- ♦ **Appropriate vascularity**
- ♦ **Suitable environment to maintain transplanted graft as it is being re-vascularized by the host**

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## ***ASTM International***

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- ♦ **An international standards harmonization organization composed of more than 132 technical standards writing committees**
- ♦ **Publisher of more than 9,100 standard specifications, tests, practices, guides, and definitions for materials, products, systems, and services in multiple industries**

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## ***ASTM International (continued)***

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- ♦ “Standard Guide for Classification of Therapeutic Skin Substitutes”
- ♦ Can be obtained from web site, [www.astm.org](http://www.astm.org)



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## ***Important definitions***

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- ♦ Autograft – tissue transplanted from one part of the body to another in the same individual
- ♦ Allograft
  - Homograft or allogeneic graft
  - Tissue transplanted from one individual to another of the same species but different genotypes

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## ***Important definitions (continued)***

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- ♦ **Xenograft**
  - Heterograft, heterologous graft or heteroplastic graft
  - Tissue transplanted between unlike species
- ♦ **Skin replacement – a tissue or graft that permanently replaces lost skin with healthy skin**

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## ***Important definitions (continued)***

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- ♦ **Skin substitute – a biomaterial, engineered tissue or combination of materials and cells or tissues that can be substituted for skin autograft or allograft in a clinical procedure**
- ♦ **Temporary wound cover – material that is not the final resurfacing material but provides coverage of the wound surface until the skin surface can be permanently replaced**

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## ***Important definitions (continued)***

- ♦ **Epidermal autograft** – an autograft consisting primarily of epidermal tissue, including keratinocytes cells, but with little dermal tissue
- ♦ **Dermal autograft** – an autograft from which epidermis and subcutaneous fat have been removed, can be used in place of fascia

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## ***Debridement vs. excision***

- ♦ **Debridement** – Removal of loose, devitalized, necrotic and/or contaminated tissue, foreign bodies and other debris on the wound using mechanical or sharp technique
- ♦ **Excision** – Surgical procedure to prepare a wound for immediate or later grafting



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## *Physician work reflected*

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- ♦ Harvesting graft and care for donor site
- ♦ Application of skin replacement or substitute by location and incremental units
- ♦ Application involving “surgical fixation” of the skin substitute (not simple laying on of material)

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## *Skin graft reporting in CPT*

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- ♦ Based upon size and location of the recipient site
- ♦ Type of graft/skin substitute
- ♦ Includes simple debridement of granulation tissue or recent avulsion

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## *Calculation of size of defect*



- ♦ Adults and children over age 10 – 100 sq cm for most
- ♦ Adults and children over age 10 – 25 sq cm for tissue cultured allogeneic skin substitutes (15340-15341)
- ♦ Infants and children under the age of 10 – one percent of body surface area

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## *Rule of 9s for children*

- ♦ Head – 18%
- ♦ Arms – 9% each
- ♦ Legs – 13.5% each
- ♦ Chest – 18%
- ♦ Back – 18%
- ♦ Groin – 1%
- ♦ Child's palm – About 1%

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## *Requirements to report codes*

- ♦ Graft/skin substitute must be affixed to the skin (e.g. sutures, staples) by surgeon's choice of fixation
- ♦ Do not report when skin substitute is placed on the skin and anchored with dressing



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## *CPT description changes for 2006*

- ♦ 15000 – surgical preparation of site by:
  - Excision of open wounds, eschar, or scar, including subcutaneous tissue
  - Incisional release of scar contracture
  - More than just debridement of the wound bed

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## *CPT description changes for 2006*

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- ♦ Change from “split graft” to “split-thickness autograft”
  - 15100 plus add on code
  - 15120 plus add on code
- ♦ Change from “application of xenograft” to “xenograft for temporary skin closure...”
  - 15400 plus add on code

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## *15150-15157 Tissue-cultured epidermal autograft*

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- ♦ CEA, Epicel®
- ♦ Living, unburned skin cells removed from a burn patient and used to grow thin sheets of new cells in a laboratory, epidermal layer only
- ♦ Cells harvested (2 x 6 cm skin biopsy), placed in culture medium in flasks, cocultured with mouse cells, nutritionally supported and grown to size of playing card
- ♦ Removed and attached to surgical dressing material and sent to the hospital for grafting

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### ***15150-15157 Tissue-cultured epidermal autograft (continued)***

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- ♦ Used for treatment deep dermal or full thickness burns comprising a total body surface area of greater than or equal to 30%
- ♦ A form of permanent skin replacement, just like a meshed skin graft

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### ***15150-15157 Tissue-cultured epidermal autograft (continued)***

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- ♦ EpiDex®
  - Used in treatment of skin ulcers
  - Based upon biopsies of hair follicles
  - Results of process are fully differentiated epidermal skin discs of about one cm in diameter
  - Procedure can be done in physician's office

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## ***15150-15157 Tissue-cultured epidermal autograft (continued)***

### **♦ Advantages**

- Autografts are not limited to areas of the patient's unburned skin, as new "skin" can be grown
- Grafts are not rejected by the patient's immune system because they are recognized by the immune system as being part of the person's own body

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## ***Polling question #1***

The patient sustained 3<sup>rd</sup> degree burns three weeks ago. A small skin graft was harvested at that time and submitted for tissue culturing. He is now admitted for grafting of the cultured tissue. A total of 72 sq cm is grafted onto the patient's lower abdomen at this time. Which code(s) would be reported?

1. 15150
2. 15150, 15151, 15151
3. 15152
4. 15150, 15151



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## ***15170-15176 Acellular dermal replacement - Integra®***

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- ♦ **Used to treat full-thickness burns**
- ♦ **A 2-layered product**
  - **The top layer of silicone serves as a temporary synthetic epidermis**
  - **The layer below, made up of bovine tendon collagen fibers, serves as a foundation for re-growth of dermal tissue, "neodermis".**

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## ***15170-15176 Acellular dermal replacement - Integra® (continued)***

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- ♦ **"Neodermis," a dermal-like tissue that readily accepts very thin epidermal autografts.**
- ♦ **Formation of the neodermis typically takes 14-21 days. Outer layer eventually removed after skin has regenerated.**
- ♦ **Cosmetic results considered excellent**

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## ***Polling question #2***

The patient undergoes release of burn scar contracture of the web of the first finger and thumb and placement of a 22 sq cm Integra® graft, secured in place with mini staples. A dressing is applied.

Which code(s) would be reported?

1. 15000, 15170
2. 15170
3. 15000, 15175
4. 15175



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## ***15300-15321 Acellular dermal allograft - Alloderm®***

- ♦ Used to treat full-thickness burns and in oral and plastic surgery (injected to enhance lips and in penile widening)
- ♦ Derived from donated human skin tissue supplied by US AATB-compliant tissue banks

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### ***15300-15321 Acellular dermal allograft - Alloderm® (continued)***

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- ♦ Final product consists of basement membrane and properly oriented dermal collagen matrix
- ♦ Advantages
  - Immunologically inert because it is decellularized
  - Allows for immediate wound closure with thin epidermal autografts during same procedure

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### ***15340-15341 Tissue-cultured allogeneic skin substitute – Apligraf®***

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- ♦ A 2-layer product
  - The lower dermal layer combines bovine type 1 collagen and human fibroblasts (dermal cells), which produce additional matrix proteins.
  - The upper epidermal layer is formed by promoting human keratinocytes

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***15340-15341 Tissue-cultured allogeneic skin substitute – Apligraf® (continued)***

- ♦ Used for treatment of noninfected partial- and full-thickness skin ulcers due to venous insufficiency of greater than 1 month's duration
- ♦ And in the management of diabetic foot ulcers of greater than 3 weeks' duration
- ♦ It is not used in burn treatment

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***15340-15341 Tissue-cultured allogeneic skin substitute – Apligraf® (continued)***

- ♦ 15340 – First 25 sq cm or less code
- ♦ 15341 – Each additional 25 sq cm
- ♦ Do not distinguish between body areas (e.g. face, digits vs. trunk and extremities)



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### Polling question #3

The patient presents with a 4x6 cm noninfected diabetic foot ulcer that is debrided and cleansed. A total of approximately 30 sq cm of Apligraf® was fenestrated, applied to the wound and sutured into place. Which code(s) would be used to report this procedure?

1. 15000, 15340, 15341
2. 15340, 15341
3. 15341
4. 15000, 15341



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### 15360-15366 Tissue-cultured allogeneic dermal substitute - Trancyte®

- ♦ Used for treatment of foot ulcers in diabetic patients
- ♦ Dermagraft® used for treatment of diabetic foot ulcers, venous and pressure ulcers, and in burn treatment



DERMAGRAFT from the Package



Histological cross-section of DERMAGRAFT

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***15360-15366 Tissue-cultured allogeneic dermal substitute - Trancyte®***

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- ♦ **A 2-layer product**
  - **Outer layer - A synthetic epidermal layer, semi-permeable to allow fluid and gas exchange that contributes to a moist wound healing environment**
  - **Inner layer - A bioengineered human dermal matrix that adheres quickly to a wound surface**

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***15400-15411 Xenogeneic dermis – EZ Derm™, Mediskin™***

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- ♦ **EZ-Derm – A biosynthetic wound dressing that is a porcine derived xenograft**
- ♦ **Mediskin – A collagen material consisting of fresh, sterile, porcine skin**

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## ***15430-15431 Acellular xenogeneic implant - Oasis<sup>®</sup>, Surgisis<sup>®</sup>***

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- ♦ Oasis and Surgisis are decellularized, sterile, freeze-dried porcine small intestinal submucosal tissue (SIS)
- ♦ A naturally occurring, extracellular matrix comprised of natural growth factors and collagen
- ♦ May be consider an “exotic dressing” if not affixed

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## ***Reimbursement for skin substitutes***

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- ♦ C1305 – GRAFTSKIN, PER 44 SQUARE CENTIMETERS, for Apligraf<sup>®</sup>
- ♦ C9123 – HUMAN FIBROBLAST DERIVED TEMPORARY SKIN SUBSTITUTE, PER 247 SQUARE CENTIMETERS, for Trancyte<sup>®</sup>

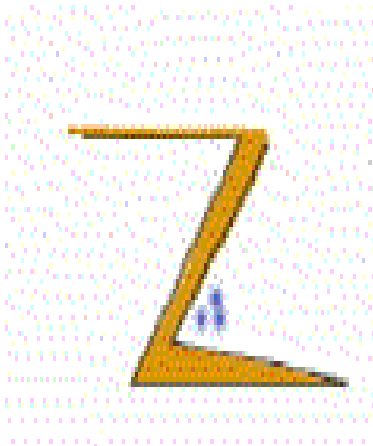
38

## ***Adjacent tissue transfer and/or rearrangement***

- ♦ Immediate closure
- ♦ Includes lesion excision
- ♦ Reported in sq cm
- ♦ Distinct from flaps (skin and deep tissue)
- ♦ Skin graft necessary to close secondary defect is additional procedure

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## ***Z-plasty***

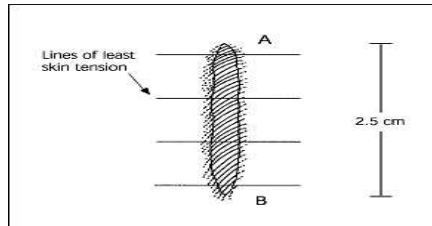


- ♦ Cut legs same length as original incision at 60 degree angle
- ♦ Develop flaps
- ♦ Interpose the flaps
- ♦ Creates a flat scar in the opposite direction as the original incision

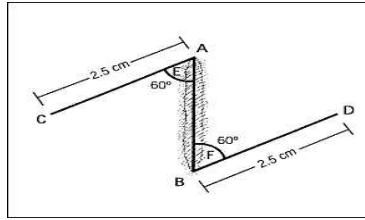
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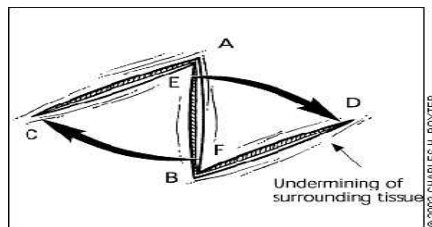
## Z-plasty (continued)



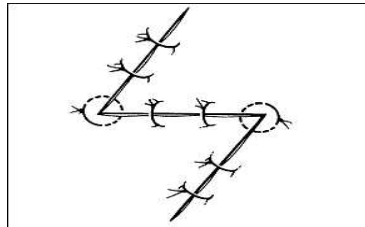
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## Flaps – skin and deep tissue

- ♦ Direct or tubed pedicle
- ♦ Delay of flap or sectioning of flap
- ♦ Transfer, intermediate, of any pedicle flap
- ♦ Flap, island pedicle
- ♦ Repair of donor site requiring skin graft or local flaps is considered an additional separate procedure

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## ***Resource/Reference List***

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- <http://www.integra-ls.com/products/?product=46> – Site for description of Integra®
- <http://www.lifecell.com/products/95/> - Site for description of Alloderm®
- <http://www.apligraf.com/> - Site for description of Apligraf®

• Level three

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## ***Resource/Reference List***

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- ♦ [CPT Changes 2006: An Insider's View](#), copyright 2005, American Medical Association, ISBN 1-57947-706-2

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## ***Audience Questions***

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## ***Audio Seminar Discussion***

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## Appendix

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Continuing Education Credit and Compliance Sign-in Form  
CE Certificate Instructions

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